



Dart Aerospace Ltd.  
1270 Aberdeen St  
Hawkesbury, ON  
K6A 1K7  
Canada

Tel (613) 632-5200  
Fax 613 632-5246

**RBE105-14181W3**  
**Job Sheet 188782**



Part No: RBE105-14181W3

Job Qty: 1 pcs *3 ALL*

Part Name: Needle Bearings Extractor



Part Weight: 0 lbs

Status: New

Priority: Medium

Job Created: 1/15/19

Job Tracking No:

Due Date: 2/25/19

Created By: Marie Lajeunesse

Type: SOLD

Description:

Note: DWG RBE105-14181W3 Rev.A IPP Rev. A 18.12.06 New issue DP Verify DD

Ship Via:

### Bill of Materials

### Job Routing

| Op No | Operation                   | Qty   | Start Date | Due Date | Standard  |         | Workcenter/Supplier   |           | Sign-off            |
|-------|-----------------------------|-------|------------|----------|-----------|---------|-----------------------|-----------|---------------------|
|       |                             |       |            |          | Setup Hrs | Run Hrs | Workcenter / Supplier | Lead Time |                     |
| 100   | Small Fab - 1               | 1 pcs | 2/25/19    |          | 0.00      | 0.20    | Small Fab - 1         |           | <i>MLL</i>          |
|       |                             |       |            |          |           |         | Small Fab - 2         |           |                     |
|       |                             |       |            |          |           |         | Small Fab - 3         |           |                     |
|       |                             |       |            |          |           |         | Small Fab - 4         |           |                     |
|       |                             |       |            |          |           |         | Small Fab - 5         |           |                     |
|       |                             |       |            |          |           |         | Small Fab - 6         |           |                     |
|       |                             |       |            |          |           |         | Small Fab - 7         |           |                     |
| 110   | QC 5                        | 1 pcs | 2/25/19    |          | 0.00      | 0.00    | QC 5 - 10             |           |                     |
|       |                             |       |            |          |           |         | QC 5 - 12             |           |                     |
|       |                             |       |            |          |           |         | QC 5 - 17             |           |                     |
|       |                             |       |            |          |           |         | QC 5 - 18             |           |                     |
|       |                             |       |            |          |           |         | QC 5 - 19             |           |                     |
|       |                             |       |            |          |           |         | QC 5 - 22             |           |                     |
|       |                             |       |            |          |           |         | QC 5 - 24             |           |                     |
|       |                             |       |            |          |           |         | QC 5 - 3              |           |                     |
|       |                             |       |            |          |           |         | QC 5 - 38             |           |                     |
|       |                             |       |            |          |           |         | QC 5 - 42             |           |                     |
|       |                             |       |            |          |           |         | QC 5 - 43             |           |                     |
|       |                             |       |            |          |           |         | QC 5 - 49             |           |                     |
|       |                             |       |            |          |           |         | QC 5 - 51             |           |                     |
|       |                             |       |            |          |           |         | QC 5 - 58             |           |                     |
|       |                             |       |            |          |           |         | QC 5 - 68             |           |                     |
| 120   | Packaging 3-1 - Stock - B4B | 1 pcs | 2/25/19    |          | 0.00      | 0.00    | QC 5 - 9              |           | <i>MAR 2 1 2019</i> |
|       |                             |       |            |          |           |         | QC 5 - 50             |           |                     |
|       |                             |       |            |          |           |         | Packaging 3 - 1 - B4B |           |                     |
|       |                             |       |            |          |           |         | Packaging 3 - 2 - B4B |           |                     |
|       |                             |       |            |          |           |         | Packaging 3 - 3 - B4B |           |                     |
|       |                             |       |            |          |           |         | Packaging 3 - 4 - B4B |           |                     |
|       |                             |       |            |          |           |         | Packaging 3 - 5 - B4B |           |                     |
|       |                             |       |            |          |           |         | Packaging 3 - 6 - B4B |           |                     |
|       |                             |       |            |          |           |         | Packaging 3 - 7 - B4B |           |                     |
|       |                             |       |            |          |           |         | Packaging 3 - 8 - B4B |           |                     |



Container No: S164809



Part: RBE105-14181W3

Job No: 188782

Serial No/Batch: S164809

Revision: A

Inspector:

Exp Date:

Instructions:

Dart Aerospace Ltd.  
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CANADA  
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Email: sales@dartaero.com  
www.dartaerospace.com

Date: 03/21/19

Entered: \_\_\_\_\_ Date: \_\_\_\_\_



## WORK ORDER NON-CONFORMANCE / ROUTE UPDATE

NCR No. \_\_\_\_\_

Route update only ☐

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |  |                        |  |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|------------------------|--|
| Job: _____<br><br>Part No. _____                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | <b>DISPOSITION</b><br><br>Rework <input type="checkbox"/><br>Scrap <input type="checkbox"/><br>Use-as-is <input type="checkbox"/> | <b>DEPARTMENT/PROCESS</b><br><br><div style="display: flex; justify-content: space-between;"> <div>           Skid-tube <input type="checkbox"/><br/>           Machining <input type="checkbox"/><br/>           Large Fab <input type="checkbox"/> </div> <div>           Cross tube <input type="checkbox"/><br/>           Small Fab <input type="checkbox"/><br/>           Finishing <input type="checkbox"/> </div> <div>           Eng. (Non-AW) <input type="checkbox"/><br/>           Prod. Eng. Coord. <input type="checkbox"/><br/>           Rec/Store/Packaging <input type="checkbox"/> </div> <div>           Engineering <input type="checkbox"/><br/>           Water Jet <input type="checkbox"/><br/>           Supplier Quality <input type="checkbox"/> </div> </div>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |  |                        |  |
| Date :                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Sequence #:                                                                                                                       | QTY Affected :                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |  | MRB (QSI042)           |  |
| Description Work Order Deviation                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                                                                   | Disposition                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |  | Completed By           |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |  | Lead hand / Supervisor |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |  |                        |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |  | QC / QA Coordinator    |  |
| <b>Root Cause</b><br><br><div style="display: flex; flex-direction: column; align-items: flex-start;"> <div>Operator <input type="checkbox"/></div> <div>Manufacturing Process <input type="checkbox"/></div> <div>Equip/Tooling <input type="checkbox"/></div> <div>Handling/Presservation <input type="checkbox"/></div> <div>Material <input type="checkbox"/></div> <div>Product Improvement <input type="checkbox"/></div> <div>Process Improvement <input type="checkbox"/></div> <div>Human Factors <input type="checkbox"/></div> </div> |                                                                                                                                   | <b>FAULT CATEGORY</b><br><br><div style="display: flex; flex-wrap: wrap;"> <div style="width: 50%;"> <input type="checkbox"/> Pressure/Forced<br/> <input type="checkbox"/> Bending<br/> <input type="checkbox"/> Crushing<br/> <input type="checkbox"/> Cracks<br/> <input type="checkbox"/> Crimp/Kink/Ripple/Wave/Twist<br/> <input type="checkbox"/> Marks/Chatter<br/> <input type="checkbox"/> Mislabeled         </div> <div style="width: 50%;"> <input type="checkbox"/> Contamination<br/> <input type="checkbox"/> Misaligned/off center<br/> <input type="checkbox"/> BOM/Route<br/> <input type="checkbox"/> Broken/Damage/Defect<br/> <input type="checkbox"/> Incomplete/Unclear Instructions<br/> <input type="checkbox"/> Drill Holes<br/> <input type="checkbox"/> Fit/Function         </div> <div style="width: 50%;"> <input type="checkbox"/> Power Loss/Surge<br/> <input type="checkbox"/> Folio/Program<br/> <input type="checkbox"/> Grain Direction<br/> <input type="checkbox"/> Weld<br/> <input type="checkbox"/> Wrong Stock Pulled<br/> <input type="checkbox"/> Out of Sequence<br/> <input type="checkbox"/> Off-set/Set-up         </div> <div style="width: 50%;"> <input type="checkbox"/> Positioned Wrong<br/> <input type="checkbox"/> Outside Tolerance<br/> <input type="checkbox"/> Drawing<br/> <input type="checkbox"/> Finish<br/> <input type="checkbox"/> Part Lost/Missing<br/> <input type="checkbox"/> Misread         </div> </div> |  |                        |  |
| Other/Details:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |  |                        |  |



|                                                  |                       |                 |                   |                        |                   |
|--------------------------------------------------|-----------------------|-----------------|-------------------|------------------------|-------------------|
|                                                  |                       |                 |                   | Packaging 3 - 9 - B4B  |                   |
|                                                  |                       |                 |                   | Packaging 3 - 10 - B4B | MLC               |
| 130 QC 21 - FG                                   | 1 pcs                 | 2/25/19         | 0.00 0.00         | QC 21 - FG - 21        | GA                |
| Part Op<br>Descriptions: 100 - Pick bag and tag. |                       |                 |                   |                        | DAS<br>21<br>9-08 |
| MAR 21 2019                                      |                       |                 |                   |                        |                   |
| <b>Job BOM</b>                                   |                       |                 |                   |                        |                   |
| <b>Part / Item</b>                               | <b>Component Name</b> | <b>Quantity</b> | <b>Operation</b>  | <b>Container</b>       |                   |
| RBE105-14181W3-1                                 | Support               | 1 pcs (1 ea)    | 100-Small Fab - 1 | 5155003                |                   |
| RBE105-14181W3-3                                 | Extractor Assembly    | 1 pcs (1 ea)    | 100-Small Fab - 1 | 2164770                |                   |
| <b>Job Allocations</b>                           |                       |                 |                   |                        |                   |
| <b>Operation</b>                                 | <b>Component Part</b> | <b>Required</b> | <b>Inventory</b>  | <b>Allocated</b>       |                   |
| 100-Small Fab - 1                                | RBE105-14181W3-1      | 1               | 0                 | 0                      |                   |
|                                                  | RBE105-14181W3-3      | 1               | 0                 | 0                      |                   |
| <b>Part Specifications</b>                       |                       |                 |                   |                        |                   |
| Specifications could not be found.               |                       |                 |                   |                        |                   |

Entered: \_\_\_\_\_ Date: \_\_\_\_\_



## WORK ORDER NON-CONFORMANCE / ROUTE UPDATE

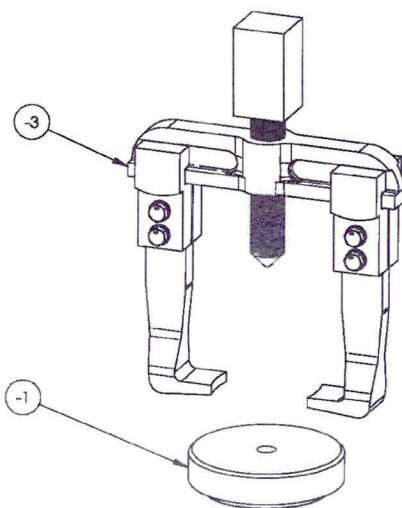
NCR No. \_\_\_\_\_

Route update only ☐

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |  |                        |  |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|------------------------|--|
| Job: _____<br><br>Part No. _____                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | <b>DISPOSITION</b><br><br>Rework <input type="checkbox"/><br>Scrap <input type="checkbox"/><br>Use-as-is <input type="checkbox"/> | <b>DEPARTMENT/PROCESS</b><br><br><div style="display: flex; justify-content: space-between;"> <div>           Skid-tube <input type="checkbox"/><br/>           Machining <input type="checkbox"/><br/>           Large Fab <input type="checkbox"/> </div> <div>           Cross tube <input type="checkbox"/><br/>           Small Fab <input type="checkbox"/><br/>           Finishing <input type="checkbox"/> </div> <div>           Eng. (Non-AW) <input type="checkbox"/><br/>           Prod. Eng. Coord. <input type="checkbox"/><br/>           Rec/Store/Packaging <input type="checkbox"/> </div> <div>           Engineering <input type="checkbox"/><br/>           Water Jet <input type="checkbox"/><br/>           Supplier <input type="checkbox"/><br/>           Quality <input type="checkbox"/> </div> </div>                                                                                                                                                                                                                                                                      |  |                        |  |
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|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |  | Lead hand / Supervisor |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |  |                        |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |  |                        |  |
| <b>Root Cause</b><br><br><div style="display: flex;"> <div style="flex: 1;">           Operator <input type="checkbox"/><br/>           Manufacturing Process <input type="checkbox"/><br/>           Equip/Tooling <input type="checkbox"/><br/>           Handling/Presservation <input type="checkbox"/><br/>           Material <input type="checkbox"/><br/>           Product Improvement <input type="checkbox"/><br/>           Process Improvement <input type="checkbox"/><br/>           Human Factors <input type="checkbox"/> </div> <div style="flex: 1;"> <input type="checkbox"/> Pressure/Forced<br/> <input type="checkbox"/> Bending<br/> <input type="checkbox"/> Crushing<br/> <input type="checkbox"/> Cracks<br/> <input type="checkbox"/> Crimp/Kink/Ripple/Wave/Twist<br/> <input type="checkbox"/> Marks/Chatter<br/> <input type="checkbox"/> Mislabeled         </div> </div> |                                                                                                                                   | <b>FAULT CATEGORY</b><br><br><div style="display: flex;"> <div style="flex: 1;"> <input type="checkbox"/> Contamination<br/> <input type="checkbox"/> Misaligned/off center<br/> <input type="checkbox"/> BOM/Route<br/> <input type="checkbox"/> Broken/Damage/Defect<br/> <input type="checkbox"/> Incomplete/Unclear Instructions<br/> <input type="checkbox"/> Drill Holes<br/> <input type="checkbox"/> Fit/Function         </div> <div style="flex: 1;"> <input type="checkbox"/> Power Loss/Surge<br/> <input type="checkbox"/> Folio/Program<br/> <input type="checkbox"/> Grain Direction<br/> <input type="checkbox"/> Weld<br/> <input type="checkbox"/> Wrong Stock Pulled<br/> <input type="checkbox"/> Out of Sequence<br/> <input type="checkbox"/> Off-set/Set-up         </div> <div style="flex: 1;"> <input type="checkbox"/> Positioned Wrong<br/> <input type="checkbox"/> Outside Tolerance<br/> <input type="checkbox"/> Drawing<br/> <input type="checkbox"/> Finish<br/> <input type="checkbox"/> Part Lost/Missing<br/> <input type="checkbox"/> Misread         </div> </div> |  |                        |  |
| Other/Details:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |  |                        |  |

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| REVISIONS |        |                         |  | DATE       | INITIAL | APPROVED |
|-----------|--------|-------------------------|--|------------|---------|----------|
| REV       | ECN    | DESCRIPTION             |  |            |         |          |
| A         | 18-054 | RELEASED FOR PRODUCTION |  | 03/12/2018 | KPT     |          |



SHOP COPY  
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UNCONTROLLED COPY  
SUBJECT TO AMENDMENT  
WITHOUT NOTICE  
WORK ORDER  
NO. 188782 MJS  
19-01-15

NOTE:  
REF. EUROCOPTER T/N: 105-14181W3.



# EXTRACTOR

RBE105-14181W3

REV  
A

| ASSY QTY | ASSY QTY | B/O | Part # | UNIT QTY | Description         | Material             | B/O INFORMATION OR SPECIFICATIONS          | PG. | TITLE          |
|----------|----------|-----|--------|----------|---------------------|----------------------|--------------------------------------------|-----|----------------|
|          |          |     | -1     | 1        | SUPPORT             | 6061                 |                                            | 2   | OWG NO.        |
| X        |          |     | -3     | 1        | EXTRACTOR ASSEMBLY  |                      |                                            | 3   | RBE105-14181W3 |
| 1        |          |     | -5     |          | EXTRACTOR BAR       | 4140/4142 (28-32 RC) |                                            | 4   | MAT'L          |
| 1        |          |     | -7     |          | SPINDLE             | 4140/4142 (28-32 RC) |                                            | 5   | FINISH         |
| 2        |          |     | -9     |          | EXTRACTOR JAW       | 4140/4142 (28-32 RC) |                                            | 6   | SPEC           |
| 4        |          |     | -11    |          | EXTRACTOR JAW CLAMP | 4140/4142 (28-32 RC) |                                            | 7   | DRAWN BY:      |
| 4        | B/O      |     | -13    |          | HEX HEAD CAP SCREW  | STEEL                | M5 X 0.8 X 35mm (MCMASTER-CARR #91280A240) | 3   | CHECKED:       |
| 8        | B/O      |     | -15    |          | WASHER              | STEEL                | M5 (MCMASTER-CARR #91165A240)              | 3   | OPPS APPR:     |
| 4        | B/O      |     | -17    |          | HEX LOCKNUT         | STEEL                | M5 X 0.8mm (MCMASTER-CARR #90576A104)      | 3   | QA APPR:       |
| ASSY -3  |          |     |        |          |                     |                      |                                            |     | APPROVED:      |

UNLESS OTHERWISE SPECIFIED  
DIMENSIONS ARE IN INCHES  
XXX 1/1000 FRACTIONS & 16  
XX 1/64 ANGLES ±5°  
X ±.1 SURFACES ±.125  
1. BREAK ALL SHARP EDGES  
019 x 45° OR .015R  
2. DIMENSIONAL LIMITS APPLY  
AFTER PLATING  
3. INTERPRET DIM AND TOL PER  
ASME Y14.5M-2009

USED ON MODEL  
EC145

SCALE N/A DATE 03/12/2018 SHEET 1 OF 7